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POST-WAR AGRICULTURAL DEVELOPMENT IN BENGAL

By

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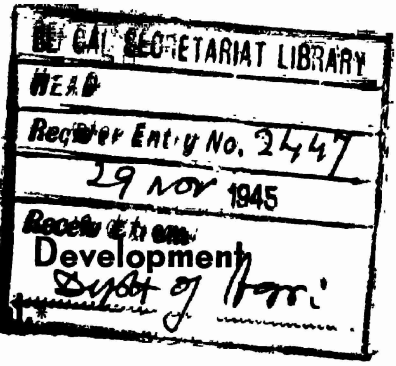

Post-War Agricultural Development in Bengal*

Agricultural Development and allied matters are very much in the forefront today. This is due to the prevailing food shortage. In the past similar interest was aroused by famines and disappeared with the termination of the crisis. We may entertain the hope that the interest awakened this time will outlast the acute critical phase. The term food shortage has come to acquire a meaning which was not fully understood before. Even when the general mass of the population remained underfed, public conscience was easy. It is now felt that the matter must be looked at from the nutritional stand-point and it is not enough to go back to the pre-war standards of consumption. Positive standards for a balanced diet have been laid down. It is asserted that an adult must have 18 oz. of cereals, 3 oz. of pulses, 2 oz. of sugar, 6 oz. of vegetables, 2 oz. of fruits, 1.5 oz. of fats and oils, .8 oz. of milk and 2 to 3 oz. of meat, fish and eggs per day to ensure a minimum standard of balanced diet. Our normal production of the various items of diet falls very much short of the quantities required for a balanced diet for all. It will necessarily take time before such deficiencies are made up. Let us expect that the public interest in agricultural development continues at least as long as we are unable to guarantee a minimum balanced diet for every person in this country. I am emphasising the point as in Bengal until recently the interest taken in such matters has been really very slight. It is not my business to go into the reasons for this state of affairs. I welcome the change in attitude both on the part of the State and the public. The State has produced a plan for the agricultural development of Bengal and I shall indicate briefly today the nature and scope of the different components of the plan.

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*A speech delivered by the author at the meeting of the Royal Asiatic Society of Bengal on the 1st November, 1945.

Let me make this clear at the outset that the schemes of which there are 25 included in the Plan are by no means all-embracing, We should have liked to do much more work in the coming five years but we are lacking both in men and materials. Our first concern is, therefore, to get technical men and lay the foundations of extensive basic research. Other major Provinces find themselves in a happier position than ourselves. Let us take the case of the Punjab for comparison. The population of the Punjab is roughly one half of the population of Bengal, but that Province had been spending Rs. 40 lakhs a year on agriculture upto 1939 while we were spending only Rs. 9 lakhs. The Agricultural College at Lyallpur in the Punjab for turning out agricultural graduates was established in 1909, whereas we did not make a start in this direction until 1940, and even then we started on a very modest scale. The research organisation of the Punjab has all along been much more extensive than ours. The result is that we have many more problems to solve and have to put in extra efforts to come into line with the Punjab. The extension staff of the Punjab's Department of Agriculture has also been on a much more generous scale than ours. Already the contact of the Punjab Agriculture Department with the cultivators is greater than ours. There are three different subdivisions of the activities of a Provincial Department of Agriculture. They are—

(1) Education and Instruction ;

(2) Research ; and

(3) Extension work.

As I have pointed out, we have lagged behind other Provinces in all the three domains of our work. We have to catch up with them and then try to keep abreast.

Naturally we have given the highest priority to our schemes for training of technical personnel and expansion of research facilities. Our first scheme is to send 70 men abroad during the next five years at the rate of 14 per year for training in agricultural subjects. On return these men will be able to fill the higher technical posts which are being created in connection with the

reorganisation of the Department and the expansion of its activities. It may be mentioned here that we started sending men abroad only in 1944. In that year we sent away 3 men. In the current year we are sending 11 men abroad. In the coming years the number is to be higher. From 1946 we shall start getting back these men. It may not be necessary to send any more men abroad at State expense after having trained up 70 persons. Anyway the present position with regard to technical personnel for the higher posts is pretty difficult. Some of the sanctioned schemes cannot be laid on the ground for want of technical men.

The second scheme we have put forward in this connection pertains to the expansion of the Bengal Agricultural Institute, Dacca. As stated before, this Institute did not come into existence until 1940. We have been turning out 10 to 18 graduates in Agriculture every year from this Institute. This number has been found quite insufficient for the requirements of the Department. Experience has also revealed certain defects in training. We have just completed one stage of the reorganisation of the course. The qualification for admission to the course which was a Science degree from the University has been lowered to enable us to catch the boys while young, so as to give them an agricultural bias which is essential for a person who has to deal with cultivators. The two years' course has been changed into a three years' course. While improving the quality, facillties have been provided for imparting training to 40 students a year. We have hardly been able to implement all these changes, but it has already become apparent that many more graduates will have to be turned out if the Department of Agriculture is to have adequate number of men both for research and extension work. We may formulate schemes for encouraging cultivation of certain crops but we cannot start their execution until we get the men who would know how to go about their execution. We have, therefore, planned to expand the training facilities at the Institute so as to turn out 150 graduates every year. It should be remembered that even if we start implementing the scheme from the beginning of the next academic year, we should have to wait for three years before we start getting that number each year.

This would give you an idea of how our general schemes of development have got to await the availability of necessary tehnical personnel.

It would, perhaps, not sound so bad if we were deficient in manpower only in the higher grades of the Service. After all, technical men at a higher level can even be imported from other Provinces or from foreign countries. They have to issue directions and exercise general supervision or work in laboratories. The pity is that there is a tremendous shortage of trained men for filling up even the lower posts in the Department. This gap cannot be bridged by imports. The man who has to get at the cultivator and put the results of research across to the latter must be a local person with intimate knowledge of the language and traditions of the village people. It is no good sending a raw young man without any training to the cultivator to advise him on improved cultural practices. We have got to produce an army of what we call Demonstrators and Overseers to bring about any appreciable development of agriculture. Our ultimate aim should be to put one Demonstrator in each Union area. He will be the guide, philosopher and friend of the cultivator. His principal business would be to advise the villagers in agricultural matters but he would also have to interest himself deeply in the general welfare of the inhabitants of his area. There are people who advocate putting a man with general education in such a position. I am very much opposed to it. I feel that the main life of a villager turns on agriculture. His adviser in such matters must be a person who can inspire confidence by his greater knowledge of agricultural work. Such a person alone can fill the bill. We are still struggling to get one Demonstrator per police station which is quite an extensive charge. We have planned to get one Demonstrator for each Circle of 6 Unions in the coming five years. This means roughly training up of 1,000 men. We have at present got facilities for training a maximum number of 188 men. We have got schools for this purpose—one is at Dacca, the other one is at Chinsurah, and the third one started only at the beginning of 1945 at Daulatpur. There is considerable wastage during the period of training. We have proposed the setting up of another school at Gaibandha to provide facilities for

training up of a further 150 Demonstrators every year. We do not think that the provision of such training facilities can be overdone at least for a good number of years to come. We have got a separate scheme for the training of Malis. Bengal has immense possibilities for horticultural development. It has got rich soil and a climate which is suitable for growing a large variety of fruit trees. What is lacking is manpower properly trained to exploit the natural advantages. Bengalee Malis are almost non-existent. We get men from other Provinces serving here under the name of Malis but their knowledge is invariably antiquated and restricted to a few simple operations. We want that Bengal should grow more fruits and also more vegetables. We must produce men who would show the way to do it. We are organising a course of training at our Horticultural Station, Krishnagar, and propose to turn out 50 Malis each year. The course is to be essentially practical in nature. We would not insist on recruiting literate persons to the course. The persons under training will be made to perform all the work involved in horticultural operations with their own hands. They will be given an allowance of Rs. 20/- per mensem. Each course will last for one full year. We are almost certain to offer them jobs at the end of the course but such men would be able to get good jobs even under private employment.

Having indicated our plans regarding training of technical person, we may turn to our proposed activities on the research side. We cannot hope for much agricultural progress unless it is based on experiment and research. Our existing research organisation is too small to meet the requirements of the situation. It did expand under the stress of war conditions but it has got to expand still further to give the field workers some useful results to put across to the cultivators. We have two Botanists at present. We propose to increase their number to six. There are many important crops which have so far received very little attention from us. Paddy, the most important food crop of the Province alone requires undivided attention of two Botanists. Other cereals, pulses, oil-seeds, fibres and fodder crops must also come in for adequate attention. Like Botany we have to expand our Agricultural Chemistry Section. We

propose having at least three more specialists in this section—one to look after soil survey, another will be the Physical Chemist, and the third one for Organic Chemistry. We also want to strengthen our animal husbandry section. Plant husbandry and animal husbandry have a most intimate connection. Without improvement of our live stock, we cannot expect much agricultural development. Mechanisation of agriculture is still a long way off. So long as we have our present land tenure system and laws of inheritance, it will be difficult to introduce the use of tractors on a wide scale. Even otherwise, mechanisation would be no help unless large scale industrialisation takes place and persons released from agriculture can be absorbed in industrial undertakings. Any way, we shall have to have cattle for providing us with milk and milk products. As you are probably aware, we have already started setting up a Central Live Stock Research-cum-Breeding Station at a place near Kanchrapara. The different problems of the Live Stock industry of Bengal would come in for a thorough investigation at the hands of the experts. The farm attached to the station will be 6,000 acres in area. A modern up-to-date dairy factory is also being established at the farm. So long we have had to import bulls of good breed from other Provinces. Henceforward we shall try to breed our own bulls from imported stock. This station will incidentally provide us with data regarding mechanised forming. We do not, however, feel that one central farm could effectively deal with the breeding problems of the live stock industry all over the Province. We have, therefore, planned for the establishment of four other live stock farms—one of 2,000 acres in Murshidabad District, another of 2,000 acres in Dinajpur District, a third one of 2,000-acres in Chittagong District, and a fourth one of 150 acres in Darjeeling District to deal with regional problems.

Apart from the research set up for live stock, we are planning to strengthen further our research set up in agricultural and rural economics. We have at the moment very little scientific data regarding the simple facts of a cultivator's life. The costs of cultivation of most crops are yet to be worked out. We cannot afford to ignore them any longer. Planned cropping

is impossible without full knowledge of the economics of each crop. We must have an Agronomist, a Rural Economist and a Statistician. We are also proposing to strengthen our research section relating to Entomology and Mycology. You would be surprised to learn that Bengal was the only major Province which did not have a wholetime Entomologist. Our crops have been devastated year after year by the depredations of various insects. This recurring loss must be prevented. We are also going to have a whole-time Mycologist. We have further proposed the recruitment of a Bacteriologist and a Virologist. For horticultural research we have got two schemes for the immediate post-war period. One relates to the establishment of five fruit research stations plus one fruit products research laboratory and the other scheme relates to a small potato breeding station. All this pre-supposes the appointment of a high level Horticulturist. The post was advertised all over India but we have not yet been able to get hold of a suitable person.

Another important research scheme of ours contemplates the establishment of a 200 acre Sugarcane Research Station in the district of Rajshahi. We have lagged behind our neighbouring Provinces of Bihar and the U.P. in the matter of sugarcane production. The history of our sugar industry is one of progressive decline. The fact remains that the yield of sugarcane per acre in Bengal is the highest in India. Our production of gur per acre has been estimated at 3,064 lbs. compared to 2,460 lbs. of Bihar and 2,600 lbs. of U.P. In the seventeenth century Bengal was a great sugar-producing Province. What we require is constant research for evolving better varieties of sugarcane suited to the Bengal climate and soil. Other sugarcane-growing areas have been at it for several years. Varieties which are commonly grown in Bengal were discarded by Bihar and the U.P. long ago. We are convinced that Bengal can occupy a very important position in the sugar industry if the sugarcane-growers of the Province are provided with the same facilities as their opposite numbers get in other places. We should have a complete organisation for distribution of the cuttings of improved varieties of sugarcane. We must demonstrate to them the advantages of manuring and

irrigating the sugarcane fields. With our Sugarcane Research Station as the brain, we shall establish developmental zones in all sugarcane-growing areas and thus help to improve the quality of sugarcane as well as extend the area under this important economic crop.

Having given you a general idea of our training and research programme, let me now tell you something about our strictly developmental plans. To improve the lot of the cultivator, we have to help him in getting more outturn per acre of his land. We could further increase our production by bringing waste lands under the plough. There are three methods by which we can get the maximum out of our lands. The first method is the use of pure seeds. The use of seeds of indifferent quality and of mixed origin retards big yields. The question which arises is where is the cultivator to get his seeds from. We have no seedsmen in the sense in which they exist and function in other countries. It is a specialised task and can hardly be expected to be performed properly by a cultivator with a small holding. To make up for this deficiency we are going to set up 29 seed multiplication farms. 28 of these farms will be 200 acres in area each. One will be 1,000 acres in area. The latter will be mainly used for the production of jute seeds. The former will be used for the multiplication of chiefly paddy seeds. Seeds of other crops like wheat, pulses, mustard, etc. will also be grown. These farms will not suffice for the entire Province. They will have to be linked with registered growers who will undertake the second stage of multiplication. Under Departmental control we are even now running a small scheme for the multiplication of country vegetable seeds at Krishnagar. We propose to undertake multiplication of healthy potato seeds. The scheme is expected to give us a stock of 75,000 maunds every year. The second method which can lead to increased production is the use of manures. We are subsidising the use of manures with which the cultivator is not already acquainted. We are convinced that the increased yield resulting from the use of manure more than compensates for the cost involved. We have got to carry this conviction to the cultivator's mind. We are planning to make the manures available to the cultivator

near his home. We propose setting up one seed store which will stock seeds, manures and agricultural implements in each thana of the Province. We shall require an army of trained men to go into the villages and teach the people how excellent manure can be obtained by composting village refuse. We have already started the work in some Districts and we are getting encouraging response from the people. I need hardly point out that by proper manuring, even infertile lands can be made to yield good crops.

The third method is irrigation. Water is the life-blood of plants. The desert of Sind has been converted into a rich tract within a short period of time through the Lloyd Barrage Scheme. The Punjab's colony districts owe all their prosperity to irrigation. I am not directly concerned with the big irrigation projects which are being considered by the Irrigation Department. The plans of that Department will definitely help agricultural development. My immediate concern is to tell you that we are also proposing to bring 50,000 acres of land under irrigation by a scheme of our own which aims at setting up 5,000 Persian Wheels and 100 pumping sets during the coming five years. We started the work of introducing Persian Wheels in Bengal about two years ago. The demand is definitely on the increase and we anticipate no difficulty in finding people to take 5,000 Persian Wheels in the next five years.

This brings me to the question of the proper utilisation of our waste lands. The crop survey recently completed reveals that the area of cultivable waste lands in Bengal comes to about 42,92,000 acres. To reclaim these waste lands special development measures will have to be adopted according to the circumstances of each particular tract or region. Before any action is taken, it would be necessary to ascertain in each case what the exact causes are that prevent the land from being cultivated, what proportion of such lands can be brought under cultivation at economic cost and what action is precisely required for that purpose. We will have to appoint a special staff to work out detailed schemes for the utilisation of each block and let us hope that it will be possible to start on a few concrete schemes in the

course of a year or so. About a few compact blocks of waste lands our knowledge is already more definite and it has been proposed to take over those lands for the settlement of demobilised soldiers. The total area to be taken for this specific purpose will be 2 lakhs acres, It will be divided into 191 blocks. One hundred and ninety blocks will each have 1,000 acres and one block will have 10,000 acres. The scheme will provide scope for testing out the possibilities of collective farming in Bengal with the aid of tractors and machines. Each block of 1,000 acres will be expected to support 50 families of ex-service men. 100 acres in each block will go under tanks, grazing grounds, roads, village site, schools, dispensaries, etc. Each family will have 1 acre for individual farming. The balance of 850 acres will be collectively worked. The rights to the land will vest in a society consisting of all the settlers and not in any individual. This experiment should be followed with interest by the general public as its success in Indian environmont may lead to revolutionary changes in our systems of land tenures. Linked with this is a scheme for the establishment of agricultural headquarters for the benefit of ex-service men in their districts of origin. We shall be running short-term practical courses for the men at each of the centres. It is hoped that their knowledge and its practical application will also benefit their other brethren.

I have pointed out already some of the handicaps from which any one planning for agricultural development suffers in Bengal. There is yet another serious handicap which is the absence of a proper soil map of Bengal. Our immediate concern has been to provide for complete soil-survey. The entire work will take 15 years to finish but a good bit will have been completed during the coming five years. We are not, however, going to stand still while the work of survey proceeds. We propose to make special efforts to reclaim areas which have gone out of cultivation due to soil erosion.

I have indicated previously that for putting down on the ground schemes for agricultural development, we want, tremendous expansion of our Department. Our plan is to place the Province in charge of 14 Deputy Directors of Agriculture. Under them

we shall have one Superintendent of Agriculture in each District, one agricultural graduate in each subdivision and one Demonstrator in each Circle of 6 Unions. We shall attach one Plant Protection Officer to each D. D. A's Circle. We shall supplement this field staff by an extensive publicity and propaganda section. On the animal husbandry side we shall put one Live Stock Officers in each district and one Assistant Live Stock officer in each subdivision. Until our own farm at Kanchrapara is able to breed bulls, we shall be importing 4,000 Hariana bulls from the Punjab in the course of the next 3 years. These bulls will be utilised for upgrading live stock in concentrated areas. We have found by experience that dispersal of the improved stock all over the Province does not help things. We have also proposed giving to the caretakers of bulls a maintenance allowance of Rs. 15/- per month each, but we are attaching a condition, namely that the recipient must grow a fodder crop at least on one acre of his land. For dairy development, we have to wait until a regular survey of the existing dairy resources of the country-side can be completed.

This is practically all that we have planned for the immediate post-war period. The best of plans are, however, useless unless the human material for whose benefit they are made does react favourably to them. I cannot help pointing out that in Bengal the actual profession of cultivation is not looked upon with respect. A চাষা is a চাষা and cannot become a *bhadralok* without giving up the work of tilling the land with his own hands. Rent-receivers are respectable people. So are zamindars but not the man who carries the burden of the whole social fabric. Manual labour is considered a disgraceful thing. We must bring about a change in this mentality. I often hear talks of dearth of agricultural labour in Bengal. How can we talk of over-population when we cannot find even the small number of labourers required to work our single-crop economy. I have come across vast areas of cultivable land lying fallow in Northern Bengal. It is well known that the people of Dinajpur wait for people from the U. P. and Bihar to come in and harvest their crops. I am certain in my mind that the rich soil of Bengal can support the existing population if it were

properly and fully utilised. I am not arguing against industrial development. Let us have industrial development on a vast scale, but we shall not be successful unless our people really come to believe in the dignity of manual labour. We are not at present making full use of our manpower. We can work miracles with the numbers we have got. No stigma should be allowed to attach to any type of manual labour—least of all—to agricultural labour. It is for the so-called higher classes to give a lead in this matter to the masses. We cannot wash away the stigma by merely talking about it. We have to set practical examples. I speak bitterly about this because I find this mentality prevailing even among some of my field staff. A Demonstrator who gets Rs. 30/- p. m. wrote to me the other day that he was finding difficulty in getting a Mali for a particular scheme of ours at Rs. 40/- p. m. If I were in his place, I should have myself gone in for the Mali's job and improved my prospects. But such an idea will not enter the head of the Demonstrator. As a Demonstrator he merely gives directions. As a Mali he will have to handle the gardening implements himself. I had another illustration of the prevailing mentality which condemns manual labour the other day. We send out iron and steel for agricultural implements to our outlying seed stores from Calcutta. Quite often we have to send coolies from Calcutta to do the job of unloading the stuff at the other end. Agriculture on a small scale can never pay if the cultivator and his family do not find sufficient occupation on their lands throughout the year. I am certain that there is a bright future ahead of Bengal provided her children can revive the old traditional respect for the profession of cultivation.

3505